

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-1 Let's build up		
Material For Lesson	- Chart paper or poster board - markers		
Vocabulary Terms	Compose – denominator – fraction – numerator – unit fraction		
Learning Objectives	- Students will define unit fractions. - Students will identify unit fractions. - Students will compose other fractions with unit fractions.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students may try to partition a whole into unequal shares. For example, the student may identify one-fourth as 1 of 4 parts, rather than 1 of 4 equal parts. Students may believe that composing fractions is limited to adding up to a whole and not be able to compose fractions less than or greater than one whole. Students may not equate composing fractions with addition. Students may struggle to understand that a fraction is composed of individual unit fractions added together. 		
Opportunities for formative Assessments	Identify the Unit Fraction, Food Fraction Fun, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-2 Break it down		
Material For Lesson	- Chart paper or poster board - markers		
Vocabulary Terms	Compose – proper fraction		
Learning Objectives	- Students will decompose other fractions with unit fractions. - Students will define unit fractions.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students may struggle to understand that a fraction is composed of individual unit fractions added together. Students may not recognize that unit fractions cannot be decomposed. They can only be combined into larger fractions. 		
Opportunities for formative Assessments	Decompose It, Food Fraction Fun, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics Primary 4 Second Term Education 2.0			
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-3 Break it down again		
Material For Lesson	<ul style="list-style-type: none"> - Chart paper or poster board - markers 		
Vocabulary Terms	Compose – decompose - unit fraction - whole		
Learning Objectives	<ul style="list-style-type: none"> - Students will represent fractions with repeated addition of unit and other fractions. - Students will represent fractions with subtractions of unit and other fractions. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students may believe that fractions can be composed from or decomposed into unit fractions exclusively. However, they can be decomposed in many different ways. 		
Opportunities for formative Assessments	<p>Race to the Finish Line, Many Ways to Break It Down, Sharing Popcorn, Practice, Check Your Understanding</p>		

Day	Date	Period	Class
		Mathematics Primary 4 Second Term	Education 2.0
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-4 All mixed up		
Material For Lesson	<ul style="list-style-type: none"> • Fraction Anchor Chart 		
Vocabulary Terms	Equivalent – denominator – improper fraction – numerator – proper fraction – mixed number		
Learning Objectives	<ul style="list-style-type: none"> - Students will define mixed numbers. - Students will define improper fractions. - Students will explain how mixed numbers and improper fractions relate to unit fractions. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students often think fractions must be less than 1. When confronted with an improper fraction, some students may not recognize it as a fraction. • Students sometimes try to simply flip the numerator and denominator of an improper fraction to make it more familiar. • Students may not recognize that an improper fraction requires more than one whole that is the same size, same shape, and divided into the same number of parts. 		
Opportunities for formative Assessments	Error Analysis, Mixed to Improper, Food Fraction Fun, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics Primary 4 Second Term Education 2.0			
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-5 Pieces from the whole		
Material For Lesson	<ul style="list-style-type: none"> No additional materials needed 		
Vocabulary Terms	Review vocabulary as needed		
Learning Objectives	<ul style="list-style-type: none"> - Students will add fractions and whole numbers. - Students will subtract fractions and whole numbers. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students may struggle to understand and demonstrate that the proper fraction $\frac{b}{b}$ is the same as 1 whole. When adding and subtracting like fractions, students may add the numerators and the denominators instead of keeping the denominators the same. 		
Opportunities for formative Assessments	Add Them Up, Break Them Down Party Planning, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics Primary 4 Second Term Education 2.0			
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-6 adding mixed numbers.		
Material For Lesson	<ul style="list-style-type: none"> Crayons or colored pencils (2 different colors per student) 		
Vocabulary Terms	Mixed numbers		
Learning Objectives	<ul style="list-style-type: none"> - Students will add mixed numbers with like denominators. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students may struggle to convert their answers into a mixed number (for example, $3\frac{4}{3} = 4\frac{1}{3}$). Students may add or otherwise change the denominator when adding. 		
Opportunities for formative Assessments	Collecting Pineapple Juice, Mixed Together, Create Your Problem, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics Primary 4 Second Term Education 2.0			
Unit	9: Fractions.		
Concept	1: Composing and decomposing fractions.		
Lesson Name	9-7 subtracting mixed numbers.		
Material For Lesson	<ul style="list-style-type: none"> • Crayons or colored pencils (1 per student) 		
Vocabulary Terms	Difference – minuend – mixed numbers – subtrahend.		
Learning Objectives	<ul style="list-style-type: none"> - Students will subtract mixed numbers with like denominators. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students often struggle with regrouping mixed fractions when subtracting. 		
Opportunities for formative Assessments	Error Analysis, Mixed Apart, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-8 like denominators and numerators		
Material For Lesson	<ul style="list-style-type: none"> Fraction Anchor Chart 		
Vocabulary Terms	Like denominator – denominator – numerator - order		
Learning Objectives	<ul style="list-style-type: none"> - Students will compare and order fractions with like denominators. - Students will compare and order fractions with like numerators. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students may not understand that when comparing fractions with like denominators, the fraction with the larger numerator is greater. • Students may not understand that when comparing fractions with like numerators, the fraction with the smaller denominator is greater. 		
Opportunities for formative Assessments	Fractional Candy Bars, Comparing Fractions with Like Denominators, Comparing Fractions with Like Numerators, Top Heavy, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-9 class $\frac{1}{2}$ full or $\frac{2}{4}$ empty?		
Material For Lesson	<ul style="list-style-type: none"> No additional materials needed 		
Vocabulary Terms	equivalence		
Learning Objectives	<ul style="list-style-type: none"> - Students will use visual models to identify equivalent fractions. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students may believe that one half of a circle is the same as a one-half of a square, mistakenly thinking the size of the whole does not matter. Students may think that if the denominators are different, the fractions cannot be equivalent. 		
Opportunities for formative Assessments	Who Ate More?, What Is Equivalent?, Pizza Contest, Practice, Check Your Understanding		

Day	Date	Period	Class
Mathematics Primary 4 Second Term Education 2.0			
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-10 Same fractions and different day.		
Material For Lesson	<ul style="list-style-type: none"> • Large copy of the fraction wall (See the Unit 9 Lesson 10 Fraction Wall at the end of this volume.) • Students' domino sets from Unit 9 Lesson 2 		
Vocabulary Terms	Equivalent		
Learning Objectives	<ul style="list-style-type: none"> - Students will use visual models and multiples to generate equivalent fractions. - Students will explain what makes two fractions equivalent. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students sometimes think that if the denominators are different, the fractions cannot be equal. 		
Opportunities for formative Assessments	Equal Sets, Fraction Wall, Recipe Trouble, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-11 benchmark fraction		
Material For Lesson	<ul style="list-style-type: none"> • Fraction Anchor Chart • Unit 9 Lesson 11 Mixed Up Fraction Cards (Photocopy 1 set per pair of students. See Blackline Master at the end of this volume.) 		
Vocabulary Terms	benchmark fraction - equivalence		
Learning Objectives	<ul style="list-style-type: none"> - Students will identify benchmark fractions. - Students will generate fractions equivalent to benchmark fractions. 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students often believe that the larger the denominator the closer to a benchmark of 1 (for example, they may think $\frac{1}{4}$ is closer to 1 than $\frac{1}{2}$ because 4 is greater than 2). 		
Opportunities for formative Assessments	Walking Down the Path, Continuing Down the Path, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	2: Comparing fractions.		
Lesson Name	9-12 half or whole?		
Material For Lesson	<ul style="list-style-type: none"> • Paper clip for Spin to Win • Pencil for Spin to Win 		
Vocabulary Terms	Compare – equivalent - benchmark		
Learning Objectives	- Students will compare fractions to a benchmark fractions.		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • Students may not be able to find equivalent fractions for benchmarks, so comparing a fraction to a benchmark may be difficult. • Students may be confused that even though whole numbers increase in size as we count ($1 < 2 < 3 < 4$), fractions do not increase in size when the denominator does ($\frac{1}{1} > \frac{1}{2} > \frac{1}{3} > \frac{1}{4}$). 		
Opportunities for formative Assessments	Error Analysis, Use a Benchmark, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-13 fractions and the identity property		
Material For Lesson	<ul style="list-style-type: none"> Digit Cards 0–9 (1 set per student) 		
Vocabulary Terms	Review vocabulary as needed		
Learning Objectives	- Students will explain use the identity property of multiplication to generate equivalent fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students often believe that performing an operation always changes the value of the original quantity, even when multiplying or dividing by 1 with whole numbers and fractions. Students may not understand that any fraction in $\frac{b}{b}$ form is equal to 1. 		
Opportunities for formative Assessments	From Parts to a Whole, Riddle Me This, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-14 different numbers , same value		
Material For Lesson	<ul style="list-style-type: none"> No additional materials needed 		
Vocabulary Terms	Equivalence – factor – simplest form – simplify		
Learning Objectives	- Students will multiply and divide to generate equivalent fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students often believe that performing an operation always changes the value of the original quantity, even when multiplying or dividing by 1 with whole numbers and fractions. Students may not understand that any fraction in $\frac{b}{b}$ form is equal to 1. 		
Opportunities for formative Assessments	Error Analysis, Multiplying to Create Equivalent Fractions, Dividing to Create Equivalent Fractions, Omar's Om Ali, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4 Second Term	Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-15 many missing multiples		
Material For Lesson	<ul style="list-style-type: none"> No additional materials needed 		
Vocabulary Terms	Equivalence – factor – multiple		
Learning Objectives	- Students will explain the relationship between multiples and equivalent fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> Students may not increase the numerator and the denominator by the same factor or only increase or decrease the denominator, not understanding that equivalence is about representing the same quantity. 		
Opportunities for formative Assessments	Which Is Not a Multiple?, What Is the Missing Multiple, Nadia's Cake, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-16 multiplying by a whole		
Material For Lesson	<ul style="list-style-type: none"> Unit 9 Lesson 16 Puzzle Mania Cards (Photocopy the Blackline Master at the end of this volume.) 		
Vocabulary Terms	Compose – decompose – factor – product – unit fraction		
Learning Objectives	<ul style="list-style-type: none"> - Students will multiply a fraction by a whole number 		
Common Misconceptions And Errors	<ul style="list-style-type: none"> When multiplying fractions by a whole number, students may multiply the numerator and denominator (similar to multiplying to make equivalent fractions) rather than recognizing that a whole number, x, is represented in a fractional way as $\frac{x}{1}$. 		
Opportunities for formative Assessments	Same Answer, Different Operation, Writing About Math, Practice, Check Your Understanding		

Day	Date	Period	Class
		Mathematics Primary 4	Second Term Education 2.0
Unit	9: Fractions.		
Concept	3: multiplication and fractions		
Lesson Name	9-17 real world fraction connection		
Material For Lesson	<ul style="list-style-type: none"> • Steps for Solving Problems Anchor Chart • Unit 9 Lesson 17 Find Your Match Cards (1 card per student) (Photocopy the Blackline Master at the end of this volume.) 		
Vocabulary Terms	Review concept vocabulary as needed		
Learning Objectives	- Students will solve story problems involving fractions		
Common Misconceptions And Errors	<ul style="list-style-type: none"> • When adding fractions, students may generalize the procedure for multiplication of fractions by adding the numerators and adding the denominators. 		
Opportunities for formative Assessments	Fraction Story Problems, Create Your Own Problem, Practice, Check Your Understanding		